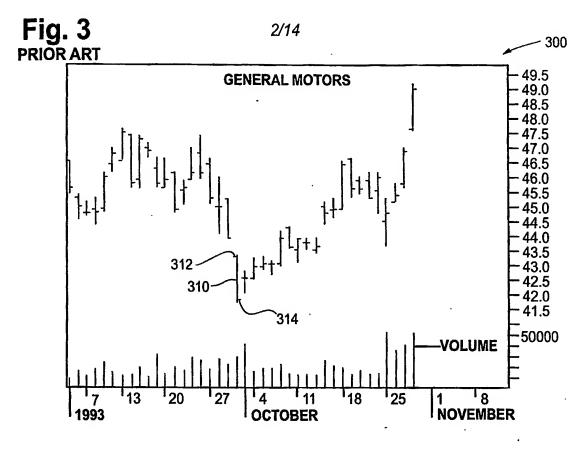
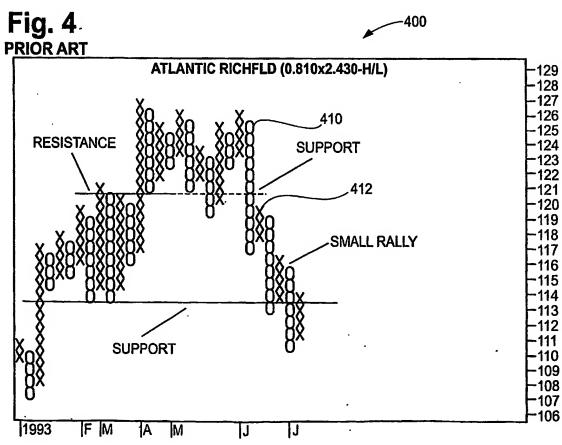
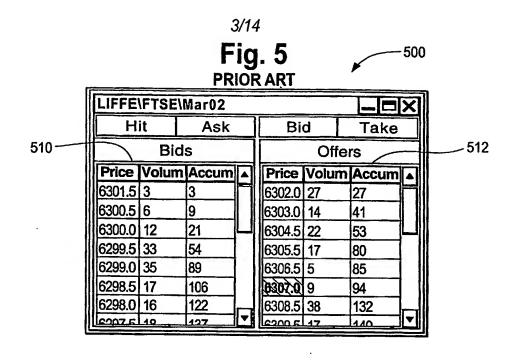


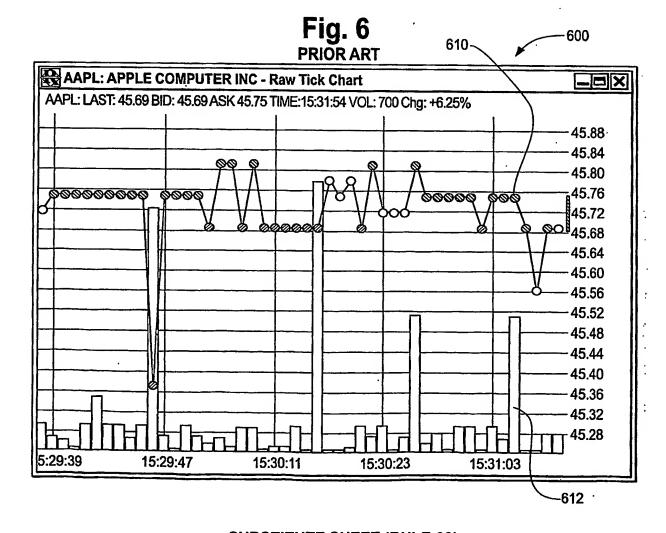
SUBSTITUTE SHEET (RULE 26)

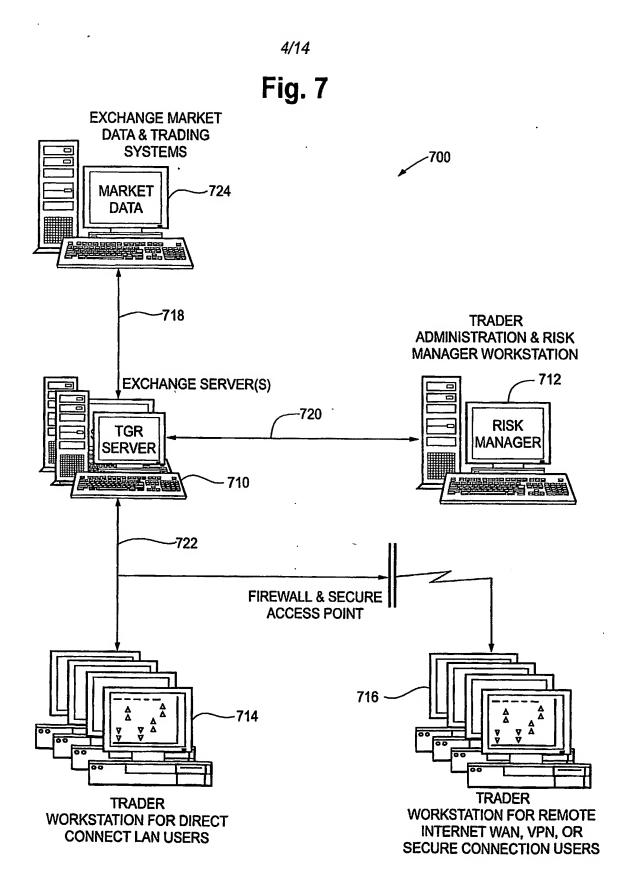




SUBSTITUTE SHEET (RULE 26)

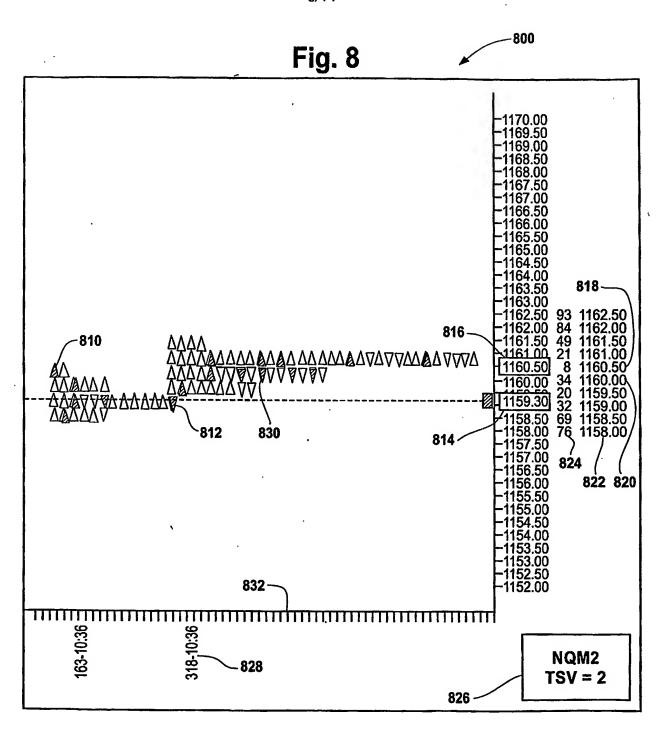


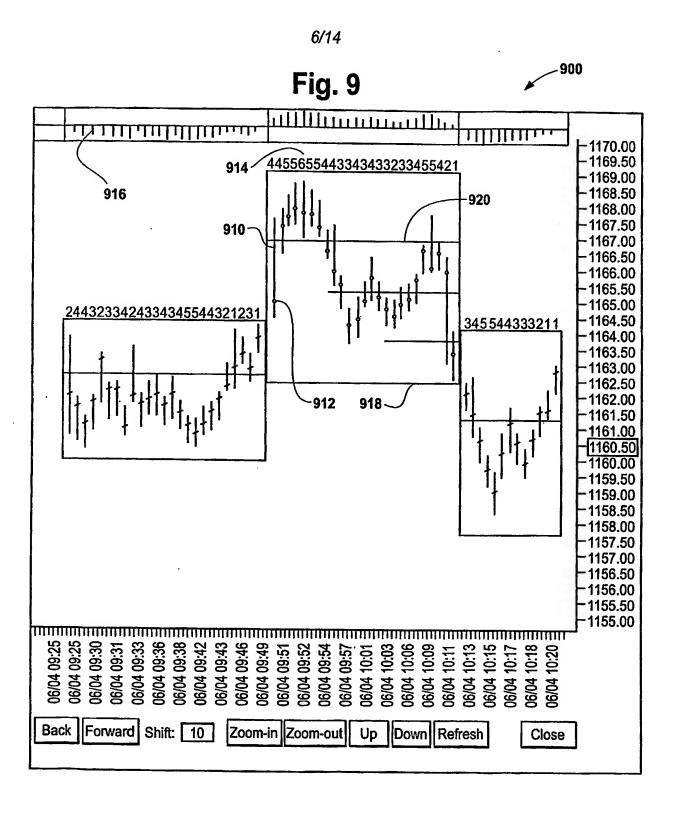




SUBSTITUTE SHEET (RULE 26) BEST AVAILABLE COPY

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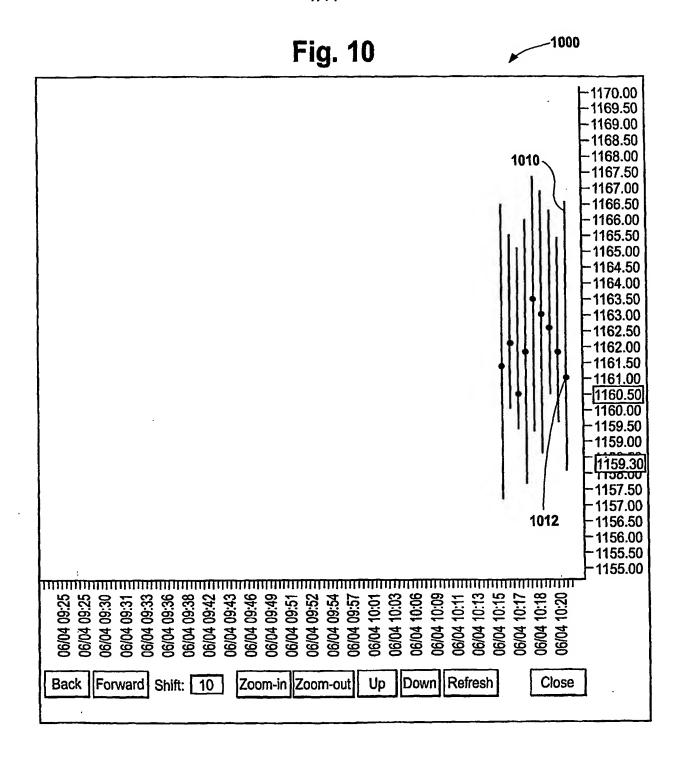


Fig. 11A

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1100

— 1102

EXCHANGE DATA SERVER

READ CONFIGURATION FILES:

EXCHANGE LOGIN ID & PASSWORD, USER ID'S & PASSWORDS, TRADING ACCOUNT ID'S WITH ASSIGNED TRADERS, ASSIGNED SECURITIES, AND ASSIGNED TRADING CREDIT CONTROLS

CONNECT TO EXCHANGE MARKET DATA & ORDER ROUTING SYSTEMS: TRANSMIT LOGIN ID & PASSWORD TO EXCHANGE & VERIFY CONNECTION

-1104

SUBSCRIBE TO EXCHANGE MARKET DATA MESSAGES:

SEND EXCHANGE REQUEST TO RECEIVE TRADE & MARKET DATA MESSAGE TYPES WITH A LIST OF ISIN SYMBOLS OF CONTRACTS EXCHANGE IS TO SEND DATA FOR

-1106

RECEIVE SECURITY EXCHANGE DATA:

TRADE DATA MESSAGE:

SECURITY ISIN SYMBOL, LAST TRADE PRICE, QUANTITY, TIME, BUYER/SELLER IDENTITY (IF AVAILABLE), DAILY OPEN, LOW, HIGH PRICES, PRICE CHANGE FOR DAY, TOTAL TRADED VOLUME

MARKET DATA:

DEPTH-OF-MARKET MESSAGE:

SECURITY ISIN SYMBOL, BID QUANTITIES, BID PRICES, ASK QUANTITIES, ASK PRICES, TIME

~1108

OUTPUT UNIVERSAL DATA STRUCTURE (UDS) DATA:

Build uds data record:

SYNCHRONIZE TRADE & MARKET DATA MESSAGES FOR A SECURITY ISIN SYMBOL, COMPARE DATA WITH PRIOR UDS RECORD, IF A NEW TRADE OR MARKET DATA CHANGE IS SIGNIFICANT THEN FILL DATA RECORD WITH SECURITY ISIN SYMBOL, LAST TRADE PRICE, QUANTITY, TIME, BUYER/SELLER IDENTITY (IF AVAILABLE) BEST BID QUANTITY & PRICE, BEST ASK QUANTITY & PRICE, DEPTH-OF-MARKET BID QUANTITIES AND BID PRICES, DEPTH-OF-MARKET ASK QUANTITIES AND ASK PRICES

—1110

TRANSMIT UDS DATA:

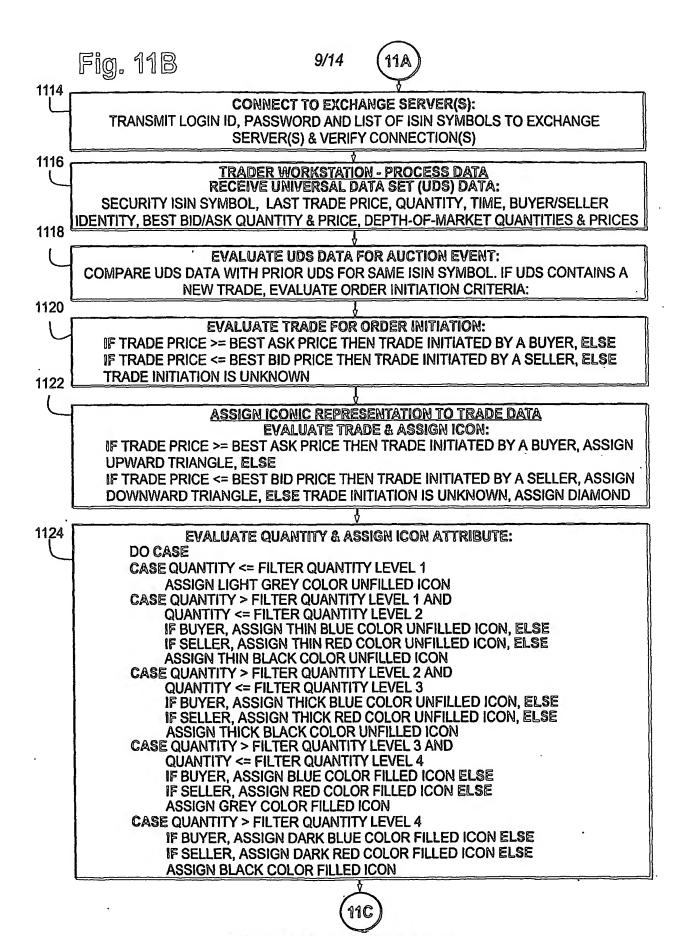
IP BROADCAST UDS DATA TO ALL TRADERS CONNECTED TO EXCHANGE SERVER SUBSCRIBED TO SECURITY ISIN SYMBOL

-1112

TRADER WORKSTATION - CONNECTION READ CONFIGURATION FILES:

TRADER ENTERS LOGIN ID & PASSWORD, WORKSTATION VERIFIES TRADER'S LOGIN, AND WORKSTATION DATA IS LOADED FOR TRADER'S DESKTOP CONFIGURATION, INCLUDING: LIST OF ISIN SYMBOLS, CHART AND CONTRACT USER SETTINGS, FILLED ORDERS HISTORY, AND HISTORICAL DATA PREVIOUSLY SAVED CORRESPONDING TO LIST OF ISIN SYMBOLS

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SUBSTITUTE SHEET (RULE 26)

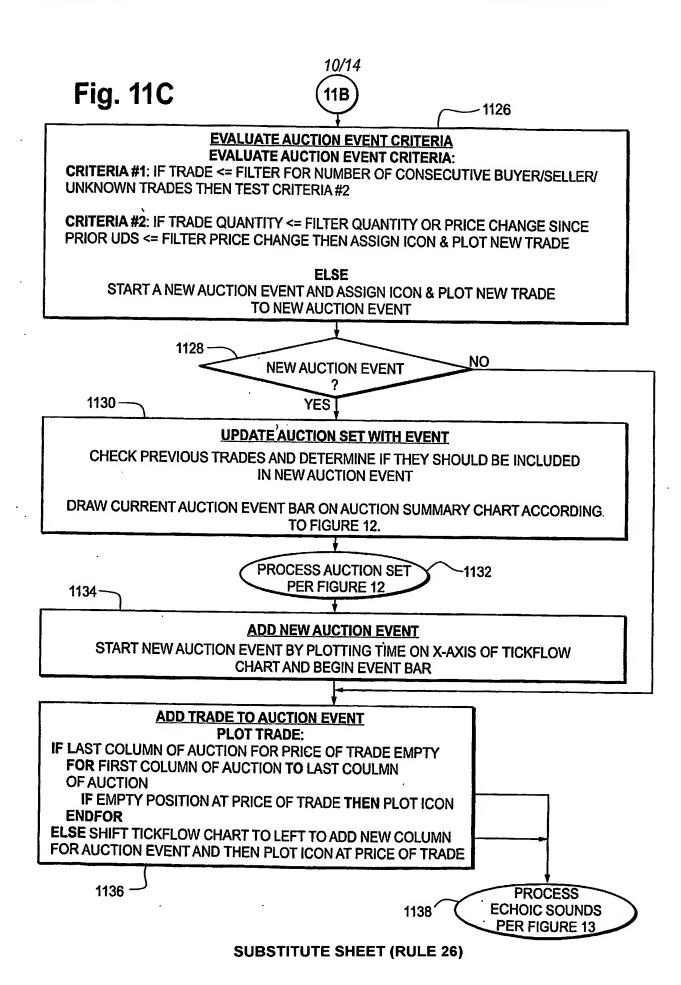


Fig. 12A

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- 1200

1210

INPUT DATA

INPUT CURRENT AUCTION EVENT DATA:

PRICES: LOW, HIGH, VOL. WTD. AVG.

VOLUME: BUYER, SELLER, TOTAL VOLUME, TOTAL TRADES

INPUT PREVIOUS AUCTION EVENT DATA: PRICE: VOL. WTD. AVG.

INPUT AUCTION SET DATA:

PRICES: VOL. WTD. AVG. BEFORE CURRENT EVENT, VOL. WTD. AVG.

INCLUDING CURRENT EVENT

INPUT MARKET DATA:

CASH MARKET PRICES: BEST BID. BEST ASK

DEPTH-OF-MARKET PRICES: VOL. WTD. AVG. BID, VOL. WTD. AVG. ASK

- 1212

EVALUATE DATA

INITIALIZE: TREND STATUS VALUE = 0 EVALUATE 8 TSV CRITERIA:

CRITERIA #1: IF AUCTION EVENT BUYER VOLUME > AUCTION EVENT SELLER VOLUME ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #2: IF CASH MARKET BEST ASK PRICE > AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #3: IF CASH MARKET BEST BID PRICE > AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #4: IF DEPTH-OF-MARKET VOL. WTD. AVG. ASK PRICE > AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #5: IF DEPTH-OF-MARKET VOL. WTD. AVG. BID PRICE > AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #6: IF CURRENT AUCTION SET VOL. WTD. AVG. PRICE > PREVIOUS AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #7: IF CURRENT AUCTION EVENT VOL. WTD. AVG. PRICE > PREVIOUS AUCTION EVENT VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

CRITERIA #8: IF CURRENT AUCTION EVENT VOL. WTD. AVG. PRICE > CURRENT AUCTION SET VOL. WTD. AVG. PRICE, ADD 1 TO TSV, ELSE IF NOT EQUAL SUBTRACT 1 FROM TSV

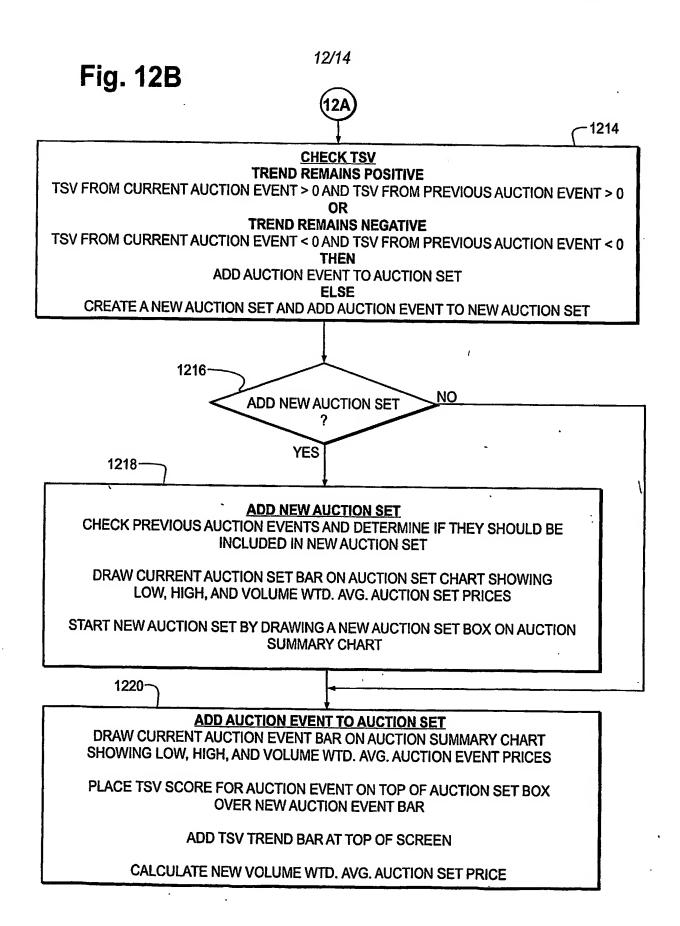


Fig. 13A

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1300

INPUT DATA

INPUT CURRENT UDS TICK DATA:
LAST TRADE QUANTITY

INPUT CURRENT APPLICATION VALUES:
BUYER/SELLER/NEUTRAL ORDER INITIATION INDICATOR

INPUT MARKET DATA:

CASH MARKET PRICES: LAST TRADE, BEST BID, BEST ASK

DEPTH-OF-MARKET PRICES:

VOL. WTD. AVG. BID, VOL. WTD. AVG. ASK

EVALUATE AND ASSIGN ECHOIC SOUNDS

EVALUATE LAST TRADE & ASSIGN SOUND:

DO CASE

CASE QUANTITY <= FILTER QUANTITY LEVEL 1
IF BUYER, ASSIGN BUYER SOUND 1, ELSE
IF SELLER, ASSIGN SELLER SOUND 1, ELSE
ASSIGN NEUTRAL SOUND 1

CASE QUANTITY > FILTER QUANTITY LEVEL 1 AND QUANTITY <= FILTER QUANTITY LEVEL 2

IF BUYER, ASSIGN BUYER SOUND 2, ELSE
IF SELLER, ASSIGN SELLER SOUND 2, ELSE
ASSIGN NEUTRAL SOUND 2

CASE QUANTITY > FILTER QUANTITY LEVEL 2 AND QUANTITY <= FILTER QUANTITY LEVEL 3

IF BUYER, ASSIGN BUYER SOUND 3, ELSE
IF SELLER, ASSIGN SELLER SOUND 3, ELSE
ASSIGN NEUTRAL SOUND 3

CASE QUANTITY > FILTER QUANTITY LEVEL 3 AND QUANTITY <= FILTER QUANTITY LEVEL 4

IF BUYER, ASSIGN BUYER SOUND 4, ELSE IF SELLER, ASSIGN SELLER SOUND 4, ELSE ASSIGN NEUTRAL SOUND 4

CASE QUANTITY > FILTER QUANTITY LEVEL 4

IF BUYER, ASSIGN BUYER SOUND 5, ELSE

IF SELLER, ASSIGN SELLER SOUND 5, ELSE

ASSIGN NEUTRAL SOUND 5

1312

1310

14/14

Fig. 13B



- 1314

EVALUATE & ASSIGN ECHOIC SOUNDS

EVALUATE CASH MARKET & ASSIGN SOUNDS:

IF CASH ASK PRICE > PRIOR CASH ASK PRICE THEN
ASSIGN CASH ASK UP SOUND, ELSE
IF CASH ASK PRICE < PRIOR CASH ASK PRICE THEN
ASSIGN CASH ASK DOWN SOUND.

IF CASH BID PRICE > PRIOR CASH BID PRICE THEN
ASSIGN CASH BID UP SOUND, ELSE
IF CASH BID PRICE < PRIOR CASH BID PRICE THEN
ASSIGN CASH BID DOWN SOUND.

IF CASH TRADE PRICE > PRIOR CASH TRADE PRICE THEN
ASSIGN CASH TRADE UP SOUND, ELSE
IF CASH TRADE PRICE < PRIOR CASH TRADE PRICE THEN
ASSIGN CASH TRADE DOWN SOUND

1316

EVALUATE DEPTH-OF-MARKET & ASSIGN SOUND:

IF AVG. ASK PRICE > PRIOR AVG. ASK PRICE THEN
ASSIGN AVG. ASK UP SOUND, ELSE
IF AVG. ASK PRICE < PRIOR AVG. ASK PRICE THEN
ASSIGN AVG. ASK DOWN SOUND.

IF AVG. BID PRICE > PRIOR AVG. BID PRICE THEN
ASSIGN AVG. BID UP SOUND, ELSE
IF AVG. BID PRICE < PRIOR AVG. BID PRICE THEN
ASSIGN AVG. BID DOWN SOUND.